AMERICAN NATIONAL STANDARD

ANSI/ISA-12.12.03-2011

Standard for Portable Electronic Products
Suitable for Use in Class I and II, Division 2,
Class I Zone 2 and Class III, Division 1 and 2
Hazardous ( Classified) Locations

Approved 12 July 2011
Preface

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Contents

1 Purpose ........................................................................................................................ .9
2 Scope ............................................................................................................................9
3 References ....................................................................................................................9
4 Definitions....................................................................................................................10
5 Application ..................................................................................................................12
6 Portable Electronic Products (PEPs).............................................................................13
   6.1 General ..................................................................................................................13
   6.2 PEP 1 ..................................................................................................................13
   6.3 PEP 2 ..................................................................................................................13
7 Administrative controls .................................................................................................14
   7.1 General ..................................................................................................................14
   7.2 PEP 1 and PEP 2 ................................................................................................14
   7.3 Safe/Hot Work Permit ..........................................................................................14
8 Examination and testing ...............................................................................................15
   8.1 Drop test ..............................................................................................................15
   8.2 Power on-off switches .........................................................................................15
   8.3 Radio frequency energy .......................................................................................15
9 Marking ........................................................................................................................16
Annex A (Informative) Example of a Gas Free Work Permit (GFWP).................................17
Annex B (Informative) Potential suitability of selected examples of portable products for use in a hazardous (classified) location ..................21
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1 Purpose

The purpose of this standard is to provide guidance for the use of selected general-purpose portable electronic products in certain hazardous (classified) locations and is primarily intended for use by an owner/operator of the Hazardous Classified Location.

This standard does not address other considerations involving the use of portable electronic products which may result in these devices being considered unsafe due to creation of a distraction from important work tasks or radio frequency interference with measurement and control equipment.

NOTE  Portable and battery powered equipment is often unavailable as listed or labeled for use in classified locations due to:
- Rapidly changing technology
- Limited market
- Time consuming testing
- Product upgrading

As a result, additional requirements are needed to take advantage of this technology in a hazardous (classified) location in a safe and workable manner.

2 Scope

This standard applies to both body-worn and hand-held portable electronic products for use in Class I and II, Division 2, Class I, Zone 2, and Class III, Division 1 and 2 Hazardous (Classified) Locations which are not available listed or labeled for hazardous (classified) locations.

This standard does not apply to products that are powered by premises wiring or connected to a communication line during use in the hazardous (classified) location.

3 References

ANSI/ISA-12.12.01-2010  Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations

ANSI/NFPA 70:  National Electrical Code®

NFPA 30:  Flammable and Combustible Liquids Code

NFPA 51B:  Standard for Fire Prevention During Welding, Cutting, and Other Hot Work

ANSI/ISA-60079-0  Explosive atmospheres - Part 0: Equipment - General Requirements

IEC 60050(IEV):  International Electrotechnical Vocabulary

OSHA Regulation:  General Requirements, SubPart Q, Welding, Cutting, and Brazing, 29CFR1910.252
4 Definitions

4.1 Portable Electronic Product (PEP)
battery powered or photovoltaic cell powered apparatus that can be hand-held or that is intended for use while worn on a person’s body

4.2 Gas Free Work Permit (GFWP)
a permit, resulting from approval by an authorized person under the application of a defined documented management work process, stating that work involving potential ignition sources may be performed in a hazardous (classified) location by ensuring that the atmosphere is free of ignitable concentrations of flammable gases or vapors

NOTE 1 Refer to NFPA 51B which provides provisions to prevent loss of life and property from fire or explosion as a result of any work involving burning, welding, or similar operations that is capable of initiating fires or explosions.

NOTE 2 Gas free work permit may sometimes be referred to as a “Hot Work Permit.”

4.3 approved
acceptable to the authority having jurisdiction

4.4 authority having jurisdiction
the organization, office or individual that has the responsibility and authority for approving equipment, installations, or procedures

4.5 hand-held
intended to be supported by one hand during normal use
4.6 portable
intended to be carried by hand or supported by a person’s body

4.7 normal use
operation, including stand-by, according to the manufacturer’s instructions for use or for the obvious intended purpose

4.8 body-worn
normally worn directly on or supported by a person’s body

4.9 cell
an assembly of electrodes and electrolytes which constitutes the smallest electrical unit of a battery

4.10 battery
an assembly of two or more cells electrically connected to each other to increase the voltage or capacity

4.11 button cell
small round non-rechargeable cell, where the overall height is less than the diameter

4.12 listed
equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or services meets identified standards or has been tested and found suitable for a specified purpose

FPN: The means for identifying listed equipment may vary for each organization concerned with product evaluation, some of which do not recognize equipment as listed unless it is also labeled. Use of the system employed by the listing organization allows the authority having jurisdiction to identify a listed product.

4.13 labeled
equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the authority having jurisdiction and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner

4.14 PEP 1
body-worn portable electronic product, in direct contact with the skin, that is deemed incapable of causing an ignition under normal conditions